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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,651	07/13/2006	Michael Vossing	KMG-001	1665
52554 7590 09/13/2011 MONAHAN & MOSES, LLC 13-B W. WASHINGTON ST. GREENVILLE, SC 29601				
EXAMINER LEE, REBECCA Y				
ART UNIT		PAPER NUMBER		
1734				
MAIL DATE		DELIVERY MODE		
09/13/2011		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/564,651

**Applicant(s)**

VOSSING ET AL.

**Examiner**

REBECCA LEE

**Art Unit**

1734

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 April 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5) ☒ Claim(s) 63-66, 69-72 and 79-103 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 63-66, 69-72 and 79-103 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-86/06)  
Paper No(s)/Mail Date 02/07/11
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/13/11 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 63-66, 69-72 and 79-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsen (US 5362321) in view of Cody et al. (US 4505886).

Regarding claims 63 and 79-88, Larsen teaches a method of reducing the soluble chromate content in cement comprising mixing the cement with iron(II) sulfate monohydrate precipitate (Column 9, lines 1-3, example 3 and table 3).

With respect to the limitation of "which is produced by concentrating ... from the obtained precipitate" recited in claim 63, and the limitations recited in claims 81-88, they

are process limitations in product (iron(II) sulfate monohydrate precipitate) by process claims in terms of iron(II) sulfate monohydrate precipitate.

It is well settled that a product-by-process claim defines a product, and that when the prior art discloses a product substantially the same as that being claimed, the burden falls upon the applicant to show that any process steps associated therewith results in a product materially different from that disclosed in the prior art. See *In re Thorpe*, (227 USPQ 964), *In re Brown*, (173 USPQ 685), *In re Fessman*, (180 USPQ 524) and MPEP 2113.

Larsen further teach the iron(II) sulfate monohydrate is prepared by drying iron(II) sulfate heptahydrate (Column 9, lines 1-3), but does not teach the claimed particle size or titanium content.

Cody et al. teach a process to obtain iron sulfate heptahydrate by crystallizing (precipitating) out iron sulfate heptahydrate from sulfuric acid (Column 4, lines 3-26). Before the crystallization, sulfuric acid is 10-35% by weight, the ferrous sulfate is 2-25% by weight and titanium is 5-25% by weight in the solution; after crystallization, the ferrous sulfate is 0-10% by weight, sulfuric acid is 10-40% by weight and titanium is 5-30% by weight in the solution. One of ordinary skill in the art at the time of invention would have expected the titanium content in the iron sulfate precipitate would be within the claimed range of 5-15% by weight base on iron.

It would have been obvious to one of ordinary skill in the art to use the ferrous sulfate heptahydrate made by Cody et al. in the drying step of Larsen in order to obtain

sulfate monohydrate with expected success since Larsen do not require any specific made ferrous sulfate heptahydrate.

In addition, even the combined references do not expressly teach the claimed particle size, since ferrous sulfate monohydrate precipitate taught by Larsen in view of Cody et al. is significantly similar as claimed, one of ordinary skill in the art at the time of invention would have expected the precipitate of Larsen in view of Cody et al. to have the same or similar size as claimed.

Regarding claim 64, Larsen teaches the ferrous sulfate monohydrate added to the cement is 0.25 or 0.5% (table 3).

Regarding claim 65, Larsen teaches the reducing agent can be milled before adding to the powdered cement (Column 3, lines 32-37).

Regarding to claim 66, since Larsen in view of Cody et al. teach a process of reducing soluble chromate in cement that is significantly similar to the claimed process, one of ordinary skill in the art would have expected the same increasing reducing effect of the iron(II) sulfate-containing reducing agent increases at least temporarily as the storage time increases to be shown by the process of Larsen in view of Cody et al. as claimed.

Regarding claims 69 and 89-90, it is rejected mostly for the same reasons as set forth in the rejections of claim 63 above.

Larsen further teaches ferrous sulfate heptahydrate (green salt) can be used as a chromate reducing agent (Column 9, lines 4-5 and table 3).

It is well held that combining two components each of which is taught by the prior art to be useful for the same purpose is prima facie obviousness MPEP 2144.06. In the instant case, both ferrous sulfate monohydrate and ferrous sulfate heptahydrate can be used as a chromate reducing agent in cement, as taught by Larsen (Column 9, lines 1-5 and table 3). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to use a combination of ferrous sulfate heptahydrate (green salt) and ferrous sulfate monohydrate, in any ratio, including the claimed ratio of 1:1 to 2:1, in the process of Larsen in view of Cody et al. with expected success.

Claims 70-72, 91-96 and 98-103 are rejected for the same reasons as set forth in the rejections of claims 64-66 and 79-88 above.

Regarding claim 97, since Larsen in view of Cody et al. teach a substantially identical precipitate as instantly claimed (see claim 63 rejection above), one of ordinary skill in the art at the time of invention would have expected the precipitate of Larsen in view of Cody et al. to have substantially the same composition as instantly claimed.

### ***Response to Arguments***

Applicant asserted that the technical reports filed 04/13/11 are pursuant to 37 CFR 1.132. However, the technical reports are not in a Declaration form, thus not treated as a Declaration under 37 CFR 1.132.

Applicant's arguments filed 04/13/11 have been fully considered but they are not persuasive.

For claims 63-66 and 79-88, applicant tried to establish the criticality of Ti/Fe ratio by referring to the examples A-F in the technical reports submitted. However, examples A-F have different compositions, such as different Al, Ba, Ca, V, Na or Mg contents. Since the compositions in comparison have different Al, Ba, Ca, V, Na or Mg contents and there is no factual evidence to show that Ti/Fe is the sole element that contributes to the asserted unexpected results; applicant's argument is not found convincing.

For claims 69-72 and 89-103, applicant tries to establish unexpected results for the claimed ratio between iron(II) sulfate monohydrate and green salt of 1:1 to 2:1 by referring back to the declaration filed for application 10569333. However, no data for the upper claimed limit of 2:1 is available. Examiner would like to remind applicant that to establish unexpected results over a claimed range, applicants should compare a sufficient number of tests both inside and outside the claimed range to show the criticality of the claimed range. In re Hill, 284 F.2d 955, 128 USPQ 197 (CCPA 1960) and MPEP 716.02(d). Since the proof of factual evidence is lacking in applicant's assertion of unexpected results, the examiner does not find the argument persuasive.

### ***Conclusion***

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE**

**FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REBECCA LEE whose telephone number is (571)270-5856. The examiner can normally be reached on Monday-Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, EMILY M. LE can be reached on (571)272-0903. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./  
Examiner, Art Unit 1734

/Emily M Le/  
Supervisory Patent Examiner, Art Unit 1734